



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7**

11201 Renner Boulevard
Lenexa, Kansas 66219

Jun 11, 2020

MEMORANDUM

SUBJECT: Review of July 2019 Supplemental Phase II Environmental Site Assessment
Clinton Engines Site
Maquoketa, Iowa

FROM: Randy Brown, Hydrogeologist
Applied Sciences Branch
Laboratory Services and Applied Science Division

**RANDOLPH
BROWN** Digitally signed by
RANDOLPH BROWN
Date: 2020.06.10
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TO: Yvonne Smith, On-Scene Coordinator
Assessment, Emergency Response and Removal Branch
Superfund and Emergency Management Division

As requested, the July 2019 Supplemental Phase II Environmental Site Assessment (ESA) was reviewed. As with the previous Clinton Engines documents, it is understood that these documents were prepared for the Iowa Department of Natural Resources and as such, the comments are provided for identifying historical data gaps within the investigations and suggestions for remedying these data gaps in future EPA investigations. If you have any questions, please contact Randy Brown at x7978.

Hydrogeologist Comments

- 1) **Section 4.0, Supplemental Phase II ESA Activities and Results, Page 6.** The text indicates that the “perceived static water level” was used to determine sampling intervals. The text does not clarify this static water level or range of static water levels.
- 2) **Section 4.0, Supplemental Phase II ESA Activities and Results, Page 6.** A table with static water levels from either monitoring wells or direct push technology (DPT) groundwater samples was not included. The groundwater potentiometric surface cannot be evaluated without this information.
- 3) **Section 4.0, Supplemental Phase II ESA Activities and Results, Page 6.** There is significant variability in DPT sampling intervals which makes evaluation of vertical extent difficult and questions if sampling is underestimating TCE results because of large open-hole intervals causing potential dilution, rather than sampling more discrete zones.
- 4) **Section 4.0, Supplemental Phase II ESA Activities and Results, Page 6.** Several of the DPT samples were not evaluated due to lack of water. More explanation is needed in the text of how long these were kept in place before abandoning and what criteria were used to determine abandonment. Other potential approaches are available with DPT for slowly yielding formations such as installation of temporary wells that can be sampled days or weeks after installation.



- 5) **Section 4.0, Supplemental Phase II ESA Activities and Results, Page 6 and Tables.** Monitoring well development and purging information are not included for the wells sampled for this ESA.
- 6) **Section 4.0, Supplemental Phase II ESA Activities and Results, Page 6 and Tables.** The well logs are only included for the new monitoring wells MW-2R and MW-7R. A reference should be made to the document containing the remaining well logs or preferably should all be included as an appendix.
- 7) **Section 4.0, Supplemental Phase II ESA Activities and Results, Page 6 and Table 1.** Several DPT groundwater samples are indicated as non-detect for trichloroethylene (TCE) with detection limits significantly elevated above the Region 7 shallow groundwater Vapor Intrusion Screening Level (VISL) of 0.63 µg/l for TCE in residential scenarios and 1.9 µg/l for TCE in worker scenarios. These locations with TCE detection limits above VISLs cannot be used to rule out areas with a potentially complete vapor intrusion (VI) pathway in the absence of further VI evaluation including sub-slab and indoor air sampling within occupied structures. While these samples can be potentially used to determine the extent of groundwater detections above maximum contaminant levels (MCLs), they cannot be used to define the extent of properties with potentially complete VI pathways.
- 8) **Table 1.** As discussed in the previous comment, a significantly higher number of properties may be impacted with a complete VI pathway than is reflected in Table 1 due to an incomplete site characterization and lack of additional off-site VI sampling.
- 9) **TCE Max Concentrations Figure.** The western extent of groundwater sampling (B-34) indicates TCE both above the MCL and residential VISL. This sample places a significantly larger area that may be impacted with a complete VI pathway than the properties included in Table 1.
- 10) **TCE Max Concentrations Figure.** All of the northern boundary DPT samples are non-detect for TCE with detection limits above the VISLs. Similarly, the southern and southwestern boundary samples either have detections above VISLs or have non-detects with detection limits above VISLs.
- 11) **Tables.** A potentiometric map is not included and thus evaluating potential groundwater flow direction cannot be made from the data presented in the Supplemental Phase II ESA. Horizontal and vertical gradients cannot be evaluated without this information.
- 12) **Tables.** A comprehensive table of monitoring well and DPT data is not included with screened intervals, static water levels, total depths, sampled intervals, construction and completion information. It is not possible to determine if monitoring well screened intervals are comparable and if DPT intervals can be compared either to each other or to monitoring well data.

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CONCURRENCE: Name/Ext/Date/File Location

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DIV/BR	LSASD/ASB	LSASD/ASB	LSASD/ASB	
NAME	RANDOLPH BROWN H BROWN Digitally signed by RANDOLPH BROWN Date: 2020.06.10 12:54:20 -05'00'	MICHAEL BERINGE R Digitally signed by MICHAEL BERINGE Date: 2020.06.11 07:36:38 -05'00'		
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